(December 6, 2004)

Fabric Pad Bearing

Unless other materials are specified in the Plans, fabric pad bearing assembly components shall conform to the following requirements for those components shown and specified in the Plans:

Steel Plates and Bars

Steel plates and bars (keeper bars, sole plates, backing plates, and masonry plates) shall conform to ASTM A 36 and the dimensions shall conform to the details shown in the Plans. The backing plate and masonry plate surfaces in contact with the pre-formed fabric pad, and the surface within the recess of the backing plate, shall have an average surface roughness of 250 microinches or less. The surface of the sole plate in contact with the stainless steel sheet shall have an average surface roughness of 125 microinches or less. All other steel plate and bar surfaces in contact with other fabric pad bearing components shall have an average surface roughness of 500 microinches or less.

Pre-formed Fabric Pad

Pre-formed fabric pads shall be composed of multiple layers of duck, impregnated and bound with high quality oil resistant synthetic rubber, compressed into resilient pads of uniform thickness. The duck shall be of highest quality cotton or cotton-polyester 50-50 blend, and shall weigh a minimum of eight ounces per square yard. The cotton warp and the filling yarn shall be 2-ply. The cotton-polyester warp and fill shall be single yarn, with a minimum breaking strength by grab method of 150 pounds per inch per width (piw) warp, and 140 piw fill. The filling count of the duck shall be 40± 2 threads per inch and the warp count shall be 50 ± 1 threads per inch. The number of plies shall be sufficient to produce the specified thickness, after compression and vulcanization.

The finished pads shall withstand compression loads perpendicular to the plane of the laminations of not less than 10,000 psi without any sign of failure after the load is removed. Failure is defined as any breakdown of the component materials or laminations.

The pre-formed fabric pad shall have a shore A hardness of 90±5.

Polytetraflouroethylene (PTFE) Sheet

PTFE shall be 100 percent virgin (unfilled) PTFE, fiberglass fiber filled PTFE, or dimpled PTFE conforming to Section 18.8.2 of the AASHTO LRFD Bridge Construction Specifications, 1st Edition and latest interims, and the following requirements:

1. PTFE sheet shall be composed of 100 percent virgin (unfilled) polytetrafluoroethylene resin, except where filled PTFE is specified in the Plans.

2. Filled PTFE, when specified in the Plans, shall be composed of PTFE resin uniformly blended with 15 percent maximum fiberglass fiber.

3. The substrate shall limit the flow (elongation) of the confined PTFE to not more than 0.009 inch under a pressure of 2,000 psi for 15 minutes at 78F for a two inch by three inch test sample.

4. Unfilled PTFE shall have a hardness of 50 to 65 Durometer D, at 78F, in accordance with ASTM D 2240.

Stainless Steel Sheet

Stainless steel sheet shall be no less than 14 gage meeting ASTM A 240 Type 304L specifications. Stainless steel in contact with the PTFE shall be polished to a Number 8 mirror finish.

Welded Shear Connectors

Welded shear connectors shall conform to Section 9-06.15.

Bolts, Nuts and Washers

Bolts, nuts and washers shall conform to Section 9-06.5(3), and shall be galvanized after fabrication in accordance with AASHTO M 232.

Anchor Bolts, Nuts and Washers

Anchor bolts, nuts and washers shall conform to Section 9-06.5(4). The top 1'-0", minimum, of the exposed end of the anchor bolts, and the associated nuts and washers, shall be galvanized after fabrication in accordance with AASHTO M 232.

Concrete Inserts

Concrete inserts shall be as specified in the Plans.

Silicone Grease and Epoxy Gel

Silicone grease shall conform to Military Specification MIL-S-8660.

Epoxy gel shall be Type I, Grade 3, Class A, B, or C, conforming to Section 9-26.1**.**

Submittals of Test Reports, Certifications, and Samples

The Contractor shall submit to the Engineer the following test reports, certifications, and samples for review, testing, and approval, prior to installing the fabric pad bearings:

1. Manufacturer's certificate of compliance for the PTFE, pre-formed fabric pad duck, silicone grease, and epoxy gel.

2. Certified mill test reports for all steel and stainless steel in the bearing assemblies.

3. Certified test reports confirming that the pre-formed fabric pads meet the specified requirements of proof load.

4. Samples of the pre-formed fabric pads, size six inches by six inches by one inch, and PTFE sheet, size two inches by three inches by 1/8 inch, from the production material.

The Engineer will require 15 calendar days to review and test the submitted certificates, test reports, and samples. If all or a portion of the submittal fail to meet the specified requirements, the Contractor shall correct the deficiencies and resubmit to the Engineer. An additional 15 calendar days may be required by the Engineer for review of each resubmittal.